W00184

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

(NF-07-06-USVI-HAB)

Type of Survey: Multibeam

Registry Number: W00184

LOCALITY

State / Commonwealth: Puerto Rico

General Locality: Offshore Western Puerto Rico

Sub-locality: Bajo De Cico

2007

CHIEF OF PARTY

Timothy A. Battista (NOAA)

LIBRARY & ARCHIVES

DATE

AHB PRE-COMPILATION PROCESS

REGISTRY No.	W00184
PROJECT No.	NF-07-06-USVI HAB
FIELD UNIT	NOAA ship Nancy Foster
PRE-COMPILER	Bridget Williams
LARGEST SCALE CHART	25671, edition 18, 20030322
CHART SCALE	1: 100,000
SURVEY SCALE	1: 10,000
DATE OF SURVEY	20070415-20070424
CONTENT REVIEW DATE	June 11, 2008

Components	File Names
Product Surface	PS_W00184_10k_100mrad_12mres.hns
Shifted Surface	PS_W00184_10k_100mrad_12mres_Shifted.hns
Contour Layer	PS_W00184_10k_100mrad_12mres_Contours.hob
Survey Scale Soundings	W00184_SS_Soundings.hob
Chart Scale Soundings	W00184_CS_Soundings.hob
ENC Retain Soundings	N/A
Feature Layer	W00184_Features.hob
Meta-Objects Layer	W00184_MetaObjects.hob
Blue Notes	W00184_BlueNotes.hob

SPECIFICATIONS:

I. COMBINED SURFACE:
   a. File name: W00184_12m_AHB_Combined.hns
   b. Resolution: 12 m
   c. Fieldsheet Location: T:\SAR\W00184_USVI-NF\AHB_W00184\Fieldsheets\Bajo_UTM19N

II. PRODUCT SURFACE (SOUNDINGS):
   a. Scale: 1: 10000
   b. Radius: 100 m
   c. Resolution: 24 m

   d. Depth
      i. Minimum: 22.015 m
      ii. Maximum: 563.521m

   PRODUCT SURFACE (CONTOURS):
   e. Scale: 1: 10000
   f. Radius: 100 m
   g. Resolution: 24 m

III. SHIFTED SURFACE:
   a. Single Shift Value: -1.372 *[-0.229m (feet) / -1.372 m (fathoms)]*

IV. CONTOUR LAYER:
   a. Use a Depth List: W00184_NOAA_depth_curves_list.txt
      Depth List:

36.576
182.880

b. Output Options:
   i. Create contour lines:
      1. Line Object: DEPCNT
      2. Value Attribute: VALDCO

V. SOUNDING SELECTION:

a. Selection Criteria:
   i. Radius
   ii. Shoal biased
   iii. Use Single-Defined Radius: 141.08 distance on ground (m)
   iv. Filter: Generalized !=1

VI. FEATURES:

a. Brought in from Survey
   Total No. 0

b. Brought in from ENC
   ENC: # US4PR60M
   Total No. 3

VII. META-OBJECTS:

a. M_COVR attributes

Acronym	Value
INFORM	W00184
SORDAT	20070424
CATCOV	1
SORIND	US,US,survy,W00184

b. M_QUAL attributes

Acronym	Value
CATZOC	A2
INFORM	W00184, NF-07-06-USVI HAB, NOAA ship Nancy Foster
POSACC	10
SORDAT	20070424
SORIND	US,US,survy,W00184
SUREND	20070424
SURSTA	20070415
TECSOU	3 multibeam

c. DEPARE attributes

Acronym	Value
DRVALV 1	21.500
DRVALV2	562.000
SORDAT	20070424
SORIND	US,US,nsurf,W00184
INFORM	W00184

VIII. NOTES:

Sounding attribution:

QUASOU: 1: Depth Known
TECSOU: 3: found by multibeam
SORDAT: 20070424

SORIND: US,US,nsurf,W00184

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT to Accompany
Survey W00184 (1:10,000)

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with the Cruise Plan for Project **NF-07-06-USVI-HAB,** Benthic Habitat and Hydrographic Project**.** The cruise plan was dated March 30, 2007. HSD Operations Branch project instructions were not provided.

Project NF-07-06-USVI-HAB was conducted in support of the National Center for Coastal Ocean Science (NCCOS) to provide shallow water bathymetric data of critical benthic habitats in select areas off the west coast of Puerto Rico. Bathymetric data from this project collected with a multibeam echo sounder is intended to be further utilized by the Office of Coast Survey (OCS) to update the nautical charts in this area. Field processing and reports were provided by the contract Lead Hydrographer Mike L. Stetcher of Solmar Hydro Inc...

Refer to the DAPR *"NF-07-06_DAPR_Rev1.pdf"* accompanying this survey for significantly detailed documentation of system calibrations, data acquisition, and data processing. Project NF-07-06-USVI-HAB is comprised of three multibeam hydrographic surveys W00182 (Isla De Mona), W00183 (Abrir La Sierra Bank), and W00184 (Bajo De Cico). All of which are located in three distinct areas offshore of western Puerto Rico.

B. DATA ACQUISITION AND PROCESSING

Also refer to the DAPR *"NF-07-06_DAPR_Rev1.pdf"* accompanying this survey.

B.1 DATA PROCESSING

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

CARIS HIPS/SIPS version 6.1 SP1
CARIS Bathy Manager version 2.1
DKART INSPECTOR, version 5.0 Build 732 SP1
CARIS HOM version 3.3
CARIS S57 Composer version 1.0

B.2. QUALITY CONTROL

W00184 is a 100 percent multibeam only survey. The survey and reports were determined to be of good quality and adequate to supersede all prior surveys in common areas, and for application to the relevant NOS nautical charts.

B.2.1. H-Cell

AHB personnel produced the source depth grids for the survey's nautical chart update product by creating and finalizing depth thresholded grids at 2, 4, 8, and 12 meter resolutions and, combined at a 12 meter resolution. The combined grid was then used to create a product surface grid with a resolution of 12m. The survey scale selected soundings were extracted from the 12 meter resolution product surface at a scale of 1:10,000. The selected sounding set is 10 to 20 times the number of charted depths generated at a scale of 1:100,000. The chart scale selected soundings are a subset of the survey scale selected soundings. The surface model was referenced when selecting the chart scale soundings, to ensure that the selected soundings portrayed the bathymetry within the common area.

The pre-compilation products or components (Stand Alone HOB files (SAHOB)) are detailed in the Pre-Compile Process Log attached to this document. The SAHOB files included sounding selections (SOUNDG), features (SBDARE), meta objects (M_COVR, M_QUAL), depth areas (DEPARE) and cartographic Blue Notes. The individual SAHOB files were inserted into one BASE Editor feature layer and exported to S57 format in order to create the H-Cell deliverable.

The completed H-Cell was exported as an File (ENC.000) in S-57 format with all values in metric units. The metric equivalent ENC.000 file was then converted to NOAA chart scale units (ENC_CS.000) with all values measured in fathoms following NOAA sounding rounding rules.

Chart compilation was performed by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

The W00184 CARIS H-Cell final deliverables include the following products:

US400184_CS.000	**1:100,000 Scale**	**W00184 H-Cell with Chart Scale Selected Soundings**
US400184_SS.000	**1:10,000 Scale**	**W00184 Selected Soundings (Survey Scale)**
US400184_Bluenotes.000	**1:100,000 Scale**	**W00184 Cartographic Notes**

B.2.2. Junctions

No contemporary surveys exist for junctioning..

C. VERTICAL AND HORIZONTAL CONTROL

Final vertical correction processing was completed by Solmar Hydro Inc. personnel with no additional correction required by Atlantic Hydrographic Branch. The contract personnel applied verified water levels in conjunction with the preliminary tidal zoning which was accepted and approved by N/OPSI CO-OPS as the final zoning for W00184. Sounding datum is Mean Lower Low Water (MLLW). Vertical datum is Mean High Water (MHW) The Vertical Datum for this survey was Mean Lower-Low Water (MLLW). The National Water Level Observation Network (NWLON) primary tide stations at, Magueyes Island PR (945-9110), Mona Island PR (975-9938) and Aguadilla PR (975-9412) served as the primary sources for vertical datum control.

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM projection zone 19. Office ENC processing of this survey required translating the datum to meet S-57 ENC requirements.

D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON

25671 (18th Edition, Mar/03)
Corrected through NM 02/26/2008
Corrected through LNM 03/01/2008
Scale 1:100,000

ENC Comparison

US4PR60M.000
West Coast of Puerto Rico
Edition 6
Update Application Date 2007-10-22
Issue Date 2007-10-22
References: Chart 25671

D.1.1 Hydrography

D.2. ADDITIONAL RESULTS

Bottom samples were not collected during this survey. All bottom characteristics (SBDARE) are recommended as retain as charted.

D.2.1. Aids to Navigation

ATON's were not addressed and/or positioned for this survey. AHB recommends deferring the charting disposition of any navigational aids to Marine Chart Division, Nautical Data Branch.

D.3. MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. See Section D.1. of this report for a list of the Raster Charts and Electronic Navigation Charts (ENC) used for compiling the present survey:

D.4. ADEQUACY OF SURVEY

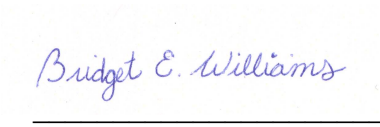
The present survey is adequate to supersede the charted bathymetry within the common area. Any features not specifically addressed either in the H-Cell File or the Blue Notes should be retained as charted. Refer to the DAPR for further recommendations by the Hydrographer.

APPROVAL SHEET
W00184

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, representation of critical depths, cartographic symbolization, and verification or disproval of charted data. All revisions and additions made to the H-Cell files during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with National Ocean Service and Office of Coast Survey requirements except where noted in the Descriptive Report and the Evaluation Report.

All final products have undergone a comprehensive reviews per the Hydrographic surveys Division Office Processing Manual and are verified to be accurate and complete except where noted.



Bridget E. Williams
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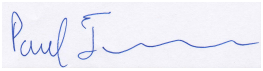
Bridget Williams
Hydrographic Intern
Atlantic Hydrographic Branch



Paul Turner
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Edward Owens
I am the author of this document
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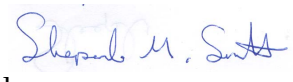
Edward A. Owens
Physical Scientist
Atlantic Hydrographic Branch

I have reviewed the H-Cell files, accompanying data, and reports. This survey and accompanying Marine Chart Division deliverables meet National Ocean Service requirements and standards for products in support of nautical charting except where noted.



Shepard Smith
I am approving this document
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Approved: _____

Shepard Smith
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch